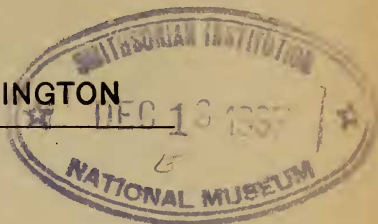


PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON



TWO NEW OWLS FROM SINALOA, MEXICO.

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New forms of birds, which have appeared in the collections from Sinaloa, Mexico, are described in this paper.

For permission to examine specimens in their collections, my acknowledgments are gratefully offered to Dr. Alexander Wetmore and Dr. Herbert Friedmann of the Smithsonian Institution, Mr. John T. Zimmer of the American Museum of Natural History, Mr. James L. Peters of the Museum of Comparative Zoology, and Mr. S. C. Simms of the Field Museum of Natural History.

Asio stygius lambi,¹ subsp. nov.

LAMB'S STYGIAN OWL.

Type.—Male adult; number 15288, collection of Robert T. Moore; Babizos, northeastern Sinaloa, Mexico; December 3, 1935; altitude 6400 feet; collected by Chester C. Lamb.

Subspecific characters.—Differs from *Asio stygius robustus* Kelso of Vera Cruz, Mexico, in having the dark areas much darker throughout, dark blackish brown, instead of chocolate brown; chocolate brown and buff of orbital region and facial rim replaced by black and white; chin whitish instead of buff; back almost immaculate blackish brown without mottling; lower back, rump and upper tail coverts darker with only inconspicuous whitish bars; flanks and sides of abdomen much darker; four outer primaries lacking the spots of deep buff or ochraceous on outer webs; spots on inner webs whiter; dark bars of longest under tail coverts four (sometimes five) instead of three; bars of middle rectrices five, very narrow, the posterior three almost obsolete; size larger. Resembles in its darker coloration *Asio stygius noctipetens* Riley of Santa Domingo, but is distinctly darker in the brown markings; black and white on the sides of the abdomen and lower

¹Chester C. Lamb is more than a collector, he has the indefatigable zest of a real student of bird behaviour, which has won him the friendship of every ornithologist. It is a pleasure to commemorate these sterling qualities by naming a well-marked race for its discoverer.

under parts, where *noctipetens* is largely bright ochraceous; size very much larger. Toes feathered almost to end of terminal joint—dark brown.

Range.—Probably the higher mountains throughout Sinaloa and western Durango.

AVERAGE MEASUREMENTS OF *Asio stygius lambi* AND RELATED RACES.

MALES	WING. ²	TAIL.	CULMEN. FROM BASE.
2 ads. (incl. Type)			
<i>lambi</i>	346.1	171.4	39.6
1 ad. Guatemala,			
<i>robustus</i>	325.1	157.1	39.1
1 ad. Cuba, <i>signapa</i>	311.0	155.3	35.8
1 ad. S. Domingo,			
<i>noctipetens</i> (Type)	291.0	159.4	34.5
1 ad. Argentine, <i>bar-</i>			
<i>beroi</i> (?).....	333.4	162.4
1 ad. Colombia,			
<i>stygius</i>	330.2	162.8
FEMALES.			
1 ad. Durango, <i>lambi</i>	347.8	181.3	41.2
1 ad. Nicaragua,			
<i>robustus</i>	330.	158.7	36.4
1 ad. S. Domingo,			
<i>signapa</i>	157.8
1 ad. Colombia,			
<i>stygius</i>	334.4	159.3

Specimens examined.—Lambi, Sinaloa 1 ♂ (Type) Babizos 1 ♂, 1 ♀ Muertocito, Durango. *Robustus*, Vera Cruz 1 ♀ (Type) Mirador; Guatemala 1 (?) Coban; Nicaragua 1 ♀ Matagalpa. *Signapa*, Cuba 1 ♂ Taco Taco, 2 (?) "Cuba." *Noctipetens*, Dominican Republic 1 ♂ (Type) Constanza, 1 ♀ Samarro Prov., 1 (?) "Santo Domingo." *Stygius stygius*, Brazil 1 (?); Colombia, 1 ♂ La Guneta, 1 ♀ Santa Elena, 1 ♂, 1 ♀, 1 (?) "Colombia"; Ecuador 1 ♂ Montes de Parambas. *Barberoi*, Argentine 1 ♂ Tucuman, 1 (?) "Argentine."

Remarks.—The series of *lambi* are the only specimens which have been secured on the west coast of Mexico. Apparently the only other from Mexico is the Type of *robustus* from Mirador, Vera Cruz, Ridgway's citation of "Mexico" on the authority of the Biologia Centrali-Americana being an error. When describing *robustus*, Kelso grouped all of the Central American birds under this name and laid particular stress on three characters as distinguishing them from South American birds. With more specimens before me, including six from Mexico and Central America and eight from South America, I find his characters valid. As he pointed out, the number of bars on the longer under tail coverts and the coloration, presence or absence of spotting on the webs of the primaries seem to have

²Wing measurement is the average of both wings.

important diagnostic value. The former increase from south to north, reaching their maximum both in number and prominence in *lambi*, whereas the latter decreases, becoming whiter and almost disappearing on the outer webs. The Coban bird, which is obviously *robustus*, has no spots on the outer webs of the two outer primaries, but shows traces on the others.

The three specimens of *lambi* are the largest of the nineteen specimens. Like the Type of *robustus*, *lambi*, the most northern representative of the species, has the toes rather heavily feathered almost to the end of the terminal joint.

***Glaucidium minutissimum oberholseri*,³ subsp. nov.**

OBERHOLSER'S PYGMY OWL.

Type.—Male adult in breeding plumage, number 17902, collection of Robert T. Moore; Vado Hondo, central Sinaloa, Mexico; April 3, 1937; altitude 1000 feet; collected by Chester C. Lamb.

Subspecific characters.—Nearest to *Glaucidium minutissimum palmarum* (Nelson), but darker above, pileum Olive Brown⁴ compared with Saccardo's Umber, tail Clove Brown compared with Bister, middle of back Olive Brown compared with Sepia, flanks more solid brown and much darker, Bister as compared with Snuff Brown; light streaks of under parts pure white instead of buffy white; large area of white on throat, whereas none in Type of *palmarum*; bristles on toes white instead of buff; wing and tail shorter, culmen longer.

Range.—Arid Upper Tropical Zone of the mountains of central and southern Sinaloa, from 1000 to 3500 feet in altitude.

AVERAGE MEASUREMENTS OF *Glaucidium minutissimum oberholseri* AND *Glaucidium minutissimum palmarum*.

MALES.	WING. ⁵	TAIL.	CULMEN FROM CERE.
5 ads. (incl. Type)			
<i>oberholseri</i>	81.1 (80.5–82.0)	50.7 (48.6–53.1)	10.3 (9.8–10.6)
2 ads. <i>palmarum</i>	84.2 (83.2–84.9)	53.6 (53.1–54.1)	9.4 (9.2–9.5)
FEMALES.			
1 im. <i>oberholseri</i>	83.7	49.6	9.2
1 ad. (Type) <i>palmarum</i>	84.4	54.5	9.8

Specimens examined.—*Oberholseri*, Sinaloa 1 ♂ (Type) Vado Hondo, 3 ♂ Sierra Palos Dulces, 1 ♂ Rancho Santa Barbara, 1 ♀ Rancho Picacho. *Palmarum*, Nayarit 1 ♀ (Type) Arroyo de Juan Sanchez; Guerrero 1 ♂

³It would be superfluous to attempt to honor an ornithologist, whose name is spread over the list of North American birds. The receipt of numerous and unusual courtesies compels me to seek some way, however trite, to express my deep appreciation to one, whose name in Latin is so well known to every bird student, that its translation is unnecessary.

⁴Names of colors in this paper, when capitalized, are taken from Ridgway's "Color Standards and Color Nomenclature," 1912.

⁵Wing measured from anterior point of metacarpus.

Chilpancingo, 1 ♂ El Naranjo. *Gnoma*, several specimens from Jalisco, Michoacan, Morelos, Tamaulipa, Chihuahua, Nuevo Leon, and 1 ♀ (Moore collection) Temascaltepec, Mexico. *Gnoma* (?), 2 ♂, 1 ♀ San Feliz, Chi. near Sinaloa-Chihuahua State Line, 1 ♂ Babizos, Sinaloa. *Fisheri*, Puebla 1 ♀ (Type) Tochimilco.

Remarks.—*Oberholseri* is the Arid Upper Tropical Zone representative of the Humid Tropical *palmarum* of Nayarit to Guerrero. The northern limit of its range approximates the northern limit of the Tropical Zone, where it merges into the Lower Austral Zone of northern Sinaloa and Sonora. In these low mountains it is almost completely dry during nine months of the year but averages from fifteen to twenty inches during the three summer months (See Brooks, *Climates of North America*, pp. 55 and 58). The annual average of between twenty and thirty inches compares with approximately fifty or more inches at similar altitudes in Nayarit. Although Griscom, in his trenchant solution of the problems involved in the *gnoma-minutissimum* relationship, calls *minutissimum* a bird of the "humid rain-forests," the most northern representative of the *minutissimum* group occurs just where the humid Tropical Zone characteristics have vanished, so that the marked differentiation of this new race would be expected.

There is no tendency in the new race toward intergradation with *gnoma* to the north and east. The back is uniform without spots, the sides even more solid brown and the tail shorter than in *palmarum* to the south. Furthermore, *oberholseri* tends to have one bar less on the tail than *palmarum*, rather than one more as in *gnoma*! I have examined critically a large number of specimens of both the *gnoma* and *minutissimum* group. In freshly moulted individuals of all races a cross line of spots or bars appears at the extreme tip of the tail and a more or less obscure one at the extreme base of the feathers. Disregarding these extreme bars, *gnoma* and *californicum* generally have six bars, *palmarum* five, while *oberholseri* in several specimens shows only four. This tendency both in size and character away from *gnoma* is all the more surprising, because *gnoma* has at last been discovered on the west slope of the Sierra Madre, about one hundred miles north of the type locality of *oberholseri*. These four birds are in the typical gray phase of northern "*gnomas*," but have neither white nor black band often found on hindneck, and only a trace of the buff, whereas this triple character is the only one of *gnoma*, which all five adult specimens of *oberholseri* possess, just as do the males of *palmarum*.

The depth of color, increasing towards brown, rather than towards gray and the richer cinnamon on the upper back and even rump of some males indicates that all six specimens are in the intermediate phase, as are the *palmarums*.